

APPENDIX I

AMENDED SPECIFICATION PAGES

accurately and completely, as indicated by step 110 of Figure 4. For instance, the store clerk will manually input the account number from the bill and preferably re-enter the account number a second time. POS terminal 2 will compare the two instances of the account number input by the clerk to ensure that they match.

5 In the event of a mismatch, POS terminal 2 will request that the clerk re-enter the account number. In this way, the possibility that the wrong account will be credited with the payment is minimized. Once the account number has been verified, POS terminal 2 will prompt that the clerk enter in the dollar amount of the bill.

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Once the transaction information has been entered and an appropriate prompt has been input to POS terminal 2, by for instance pressing an "enter" key, POS terminal 2 will establish communication with base system 4, as illustrated by step 112. As shown in Figure 3, base system 4 can comprise multiple separate
15 computer systems. In the illustrated embodiment, POS terminal 2 contacts a dedicated payment server 70, which is configured to have sufficient communication and processing bandwidth to communicate with thousands of POS terminals supporting various POS locations. The POS terminal 2 will transmit the transaction information to the payment server 70, such as data
20 identifying the POS location (e.g., an agent code, a clerk identifier, the local date and time, and the like), data identifying the biller data (biller identification number, account number, and the like), and transaction specific information (such as the amount due on the bill, the amount being tendered, payment type such as cash or check, an OCR string obtained from OCR circuitry 52, a MICR string obtained
25 from MICR reader 54, if appropriate, and the like). Note that the amount of payment being tendered and the amount due on the bill are typically not equal. This is because a surcharge is generally added to the amount due on the bill, which surcharge is generally shared between the POS location, i.e. the "agent" and the bill payment service provider. Preferably, the POS terminal 2 will also
30 transmit tracing information, such as the transaction identifier and the image identifier associated with the transaction.

transmit its daily report to the server at the same time. In other embodiments, the reports could be generated more or less frequently depending upon the needs of the system, communication bandwidth concerns, typical transaction volume, and the like. Additionally, in some embodiments, a manual report generation function can be implemented. This feature would allow for server 70 to instruct POS terminal 2 to close out its books for the day and to immediately generate and transmit a daily report. This instruction could be sent to POS terminal 2 any time the terminal dials into the server with a transaction, or in other instances, server 70 could itself initiate such a communication with the POS terminal 2 via communication link 6. One skilled in the art will recognized that certain transactions, such as age verification, credit card processing, check validation, and the like require real-time processing and information exchange between POS terminal 2 and server 70. Other processes, such as money orders, gift certificates, and the like, need not be handles in real time, but could instead have the transaction information stored in memory in POS terminal 2 until a convenient, typically pre-arranged, time for uploading the transaction information to server 70.

In addition to preparing end of day reports, POS terminal 2 is also configured to transmit on a nightly basis all of the images stored in image memory 50 (Figure 2) to image server 16 (Figures 1 and 3). As shown in Figure 1, in some embodiments, images from image memory 50 are transmitted to image server 16. More particularly, as shown by Figure 3, POS terminal 2 communicates directly with image server 16 via a communication link initiated by communication circuitry 56 of POS terminal 2 (Figure 2). One skilled in the art will recognize that image server 16 can be configured as a portion of overall base system 4 or can be configured as a separate system provided by a third party other than the bill payment service provider. In the case illustrated in Figure 3, image server 16 is a separate system operated by a third party. The configuration is a simple matter of design convenience.

It is particularly advantageous to have the images stored in database 18 of image server 16. As described above, each stored image has a unique identification number associated with it and the image identification number is linked to a
5 unique transaction identifier for the transaction to which the image belongs. In this way, images of the transaction documents (such as the actual bill or the actual check used to make payment) can be rapidly retrieved from image server 16, generally by central computer 72 in response to an inquiry from a biller or bill payer. In the preferred embodiments, images are stored in a database 18 of
10 server 16 as an XML based relational database of the images. Each image record has associated with it various index parameters, such as the merchant ID for the originating POS location, the date and time the image was captured, the image identification number, and the like. In the case of an image of a check, information such as the check routing number, checking account number, and
15 amount paid can also be included as a searchable index value.

A further advantage of storing the document images in database 18 is that database server 16 has more processing speed and power than POS terminal 2
20 has, thus ensuring rapid database search and management. This also means that images do not have to be retrieved from POS terminal 2 (in response to inquiry) during business hours, when POS terminal 2 might be busy transmitting transaction information. Additionally, database server 16 is a much more secure facility for archiving the images than is the remotely located POS terminal 2.

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In the preferred embodiments, POS terminal 2 is configured to automatically initiate communication with database server 16 and to upload images from image memory 50 to database 18 when image memory 50 reaches a certain capacity limit. Typically this capacity limit will be perhaps eighty or ninety percent of full
30 capacity, in order to allow POS terminal 2 to continue to operate for a period of time while it attempts to establish communication with database server 16 and

authorization, verification, or further instructions. One skilled in the art will recognize that numerous applications can be accommodated in this fashion. This feature is particularly advantageous in that multiple services can be accommodated from a single POS terminal, thus saving in counter space and in
5 employee training costs.

It will, of course, be understood that there could be several modifications of the present invention in its various aspects. For example POS terminal is illustrated as a specialized terminal device. Alternatively, the terminal could be a
10 general purpose computer running appropriate software and configured with a scanner and the like hardware to provide the described functionality. Additionally, the communication link between POS terminal 2 and base system 4 can be a dial-up connection or can alternatively be an always on connection over a public network such as the Internet, or over a private or virtual private network.
15 While image database 18 is shown as residing on a single server, it could alternatively be a distributed database residing on several computers, or could reside on the central computer, or some other computer comprising the base system. While the bill payment service provider is described herein as a separate service provider, the service could be provided by a financial institution
20 or by a large retailer chain, or by any of the other companies and service providers described herein. Many other variations, modifications, and extensions to the described preferred embodiments will be apparent to one skilled in the art. As such, the scope of the invention should not be limited by the particular embodiments herein described but should be only defined by the appended
25 claims and equivalents thereof.